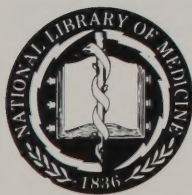
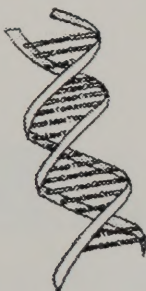


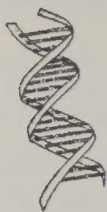
New Audiovisuals
3/4 in. Videocassettes

BIOTECHNOLOGY SEMINAR SERIES



National Library of Medicine
8600 Rockville Pike
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This administrative document contains cataloging data on videocassettes produced by the National Library of Medicine in the field of biotechnology information. More information about the Library's activities in biotechnology may be requested from the Chief, National Center for Biotechnology Information Branch, Lister Hill Center, National Library of Medicine, Bethesda, MD 20894.



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National Library of Medicine

In developing and implementing the concept of a National Center for Biotechnology Information, the National Library of Medicine has instituted a forum for the experts to present information about biotechnology and its cognate disciplines. This has resulted in a series of public lectures, held at the Library. By videotaping these talks, the Library has captured a unique survey of the content and future of this burgeoning field. The tapes may be viewed at the NLM or borrowed by other libraries on 3/4-inch videocassettes from the Regional Medical Libraries.

BIOTECHNOLOGY SEMINAR SERIES

20 January 1987

Dr. Arthur Nienhuis

National Heart Lung Blood Institute

Molecular Genetics: An Overview

QH 430 VC No. 1 1987

This introductory talk presents a general description of recent conceptual and methodological advances in the field of molecular genetics. The implications of these advances are considered, in particular as they apply to the diagnosis and understanding of inherited diseases.

26 February 1987

Dr. Helen Donis-Keller

Collaborative Research, Inc.

Mapping the Human Genome with Genetic Markers

QH 445.2 VC No. 1 1987

Dr. Donis-Keller describes the use of restriction fragment polymorphisms (RFLPs) as genetic markers for assigning the location of individual genes on a chromosome. This approach has been used in the analysis of such human diseases as Huntington's disease, Duchenne muscular dystrophy and cystic fibrosis. The technique is finding applications in the diagnosis of genetic diseases and in forensic medicine.

5 March 1987

Dr. Arthur Nienhuis

National Heart Lung Blood Institute

Using Recombinant DNA Technology

QU 58 VC No. 10 1987

This is a more detailed description of many of the specific methods used in recombinant DNA technology. Dr. Nienhuis addresses the unique power of these methods, both in the analysis of biological phenomena and in the production of useful products.

20 March 1987

Dr. Temple Smith

Dana Farber Cancer Institute (Harvard)

Syntactic and Systematic Structure in Genetic Sequences

QU 58 VC No. 9 1987

Dr. Smith considers the "language" elements used by living organisms as they store and transfer genetic information. He then describes newly developed computer methods which attempt to analyze these elements in order to determine structure-function relationships in gene products.

BIOTECHNOLOGY SEMINAR SERIES

30 April 1987

Dr. Frederic M. Richards
Yale University

Proteins: the All-Purpose Biological Polymers

QU 55 VC No. 6 1987

This is an account of recent accelerating progress in understanding the structure and function of proteins. It addresses the computerized management systems which are needed for gathering, storing, and analyzing this information, which is mainly derived from X-ray crystallography and from nuclear magnetic resonance spectroscopy.

22 May 1987

Dr. David Kingsbury
National Science Foundation

Information Requirements for Public Policy Decisions Related to Biotechnology

W 84.1 VC No. 1 1987

Dr. Kingsbury describes the issues in public policy which are being generated as a result of recent progress in biotechnology, and enumerates the types of information which are needed for the effective resolution of these issues.

5 June 1987

Dr. Daniel Masys
National Library of Medicine

Biotechnology in the National Library of Medicine: Present and Future

Z 699.5.B53 VC No. 1 1987

This presentation outlines the NLM's current and projected activities dealing with the information needs in the field of biotechnology. Dr. Masys particularly addresses the problems posed by the accelerating rate at which data are being generated, and the complexities involved in retrieving these data from diverse information storage systems.

17 September 1987

Dr. Mark Pearson
E.I. duPont de Nemours

Protein Engineering and Automated Nucleotide Sequencing

QU 58 VC No. 12 1987

Dr. Pearson describes the construction in the laboratory of a functioning transport protein, and outlines the features of a newly developed automated system for nucleotide sequencing of DNA.

BIOTECHNOLOGY SEMINAR SERIES

22 October 1987

Dr. Norman G. Anderson
L.S.B. Corporation

Indexing the Human Genome

QH 445.2 VC No. 2 1987

Newer methodologies for first-level analysis of human gene products are described and evaluated as tools required for indexing the human genome. In particular, he explores the utility of the technique of two dimensional gel electrophoresis, and enumerates the information needs which are inherent in the method.

10 November 1987

Dr. Harold Morowitz
Yale University

Information Technology and the Structure of Biological Theory

QH 303.6 VC No. 1 1987

Dr. Morowitz considers the quantity, quality, and complexity of currently emerging biological insights. He projects a plan for the overall handling and exploiting of this information, and outlines the promise to be derived from such an effort.

27 January 1988

Dr. Douglas Brutlag
Stanford University

BIONET: A Network and Computer Resource for Molecular Biology

Z 699.5.B53 VC No. 2 1988

The existing and potential capabilities of this large biology oriented communication network are discussed, in the context of the databases it can access and the community it serves.

10 February 1988

Dr. Charles Gasser
Monsanto Company

Genetic Engineering and Crop Improvement

SB 123.57 VC No. 1 1988

Dr. Gasser provides insights into the current and future impacts of gene modification in the field of agriculture. He recounts experiences in the production of pesticide and insect resistant plants which were developed using recombinant DNA technology. The examples he cites dramatically illustrate the potential of this technology in crop production.

BIOTECHNOLOGY SEMINAR SERIES

28 March 1988

Dr. Eric Lander

Whitehead Institute

Human Genome Project: What Do We Hope to Learn?

QH 445.2 VC No. 4 1988

This talk outlines the wealth of information which can be directly determined or confidently inferred from genetic mapping of the human and other genomes. Dr. Lander points out the overriding need for understanding the function of genes and gene products, rather than just their structure.

28 March 1988

Dr. Charles Cantor

Columbia University

Human Genome Project: Problems and Prospects

QH 445.2 VC No. 3 1988

Dr. Cantor reviews and compares the several types of mapping which must be performed to understand gene structure. He describes preliminary efforts in the physical mapping of human chromosome 21, citing the complexities involved. He tabulates major computing needs in this overall effort.

7 June 1988

Dr. W. French Anderson

National Heart Lung & Blood Institute, NIH

Prospects for Human Gene Therapy

QZ 50 VC No. 18 1988

Dr. Anderson reviews the currently most promising means for using gene therapy in managing various disease states. He outlines a technique by which genetically modified cells can be used in a specific cancer chemotherapy protocol, and describes a new method for introducing functioning, phenotypically unique, somatic cells into animals, using the Gunn rat as a model.

16 September 1988

Dr. Heiner Westphal

National Institute of Child Health & Human Development, NIH

Transgenic Mammals and Biotechnology

QL 959 VC No. 3 1988

In this talk, Dr. Westphal describes the technique of microinjection of cloned DNA fragments into mouse preimplantation embryos for the

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purpose of producing tissue specific gene expression. His studies primarily concern the production of tumors in the mouse ocular lens. He also describes a method for inducing the production of tissue plasminogen activator in milk.

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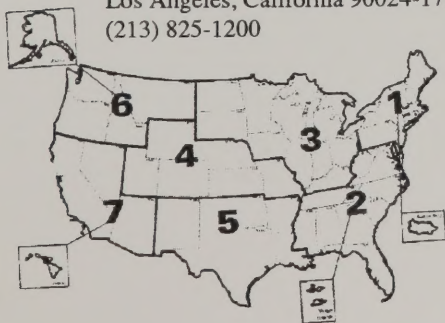
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NOTES

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January 1989